Health effects of second-hand smoke on children

Second-hand smoke is a combination of the sidestream smoke that flows directly from the burning end of a cigarette and the mainstream smoke that smokers inhale and then exhale.

The process of breathing other people's smoke is called 'passive smoking'.

What's in second-hand smoke?
Second-hand smoke contains a lethal mix of more than 4000 chemicals, including ingredients found in products such as paint stripper (acetone), toilet cleaner (ammonia), rat poison (cyanide), insecticide (DDT) and car exhaust fumes (carbon monoxide).

Many of these chemicals are present in higher concentrations in sidestream smoke than in the mainstream smoke that the smoker inhales. Nearly 85% of the smoke in a room results from sidestream smoke.

At least 50 of the 4000 chemicals found in second-hand smoke are known to cause cancer, including hydrogen cyanide, arsenic, formaldehyde and sulphur dioxide.

How does exposure to second-hand smoke affect children?
Second-hand smoke has been shown to increase the risk of a range of smoking-related illnesses in children. Exposure to second-hand smoke can begin before birth, when the mother smokes while pregnant, and continue throughout childhood.

Second-hand smoke and the unborn child
Research has shown that exposure to second-hand smoke through the mother smoking while pregnant can slow the growth of the unborn child and increase the risk of reduced birth weight. This is probably because the carbon monoxide in tobacco smoke binds with haemoglobin (a protein in red blood cells), reducing the blood's oxygen-carrying capability. Affected babies can have ongoing respiratory and developmental problems throughout childhood.

Second-hand smoke and young children
The small lungs and lighter weight of young children make them particularly vulnerable to the harmful effects of second-hand smoke.

In young children exposure to second-hand smoke is linked to increased risk of:
- middle ear infections (including glue ear)
- lower respiratory illnesses (including croup, bronchitis, bronchiolitis and pneumonia)
- the onset of asthma and worsening of asthmatic symptoms
- reduced lung growth
- sudden infant death syndrome (SIDS, or cot death)
- meningococcal disease

There is also some evidence that second-hand smoke has an effect on children's learning development and behaviour.

Deaths and hospitalisations from second-hand smoke
It has been estimated that around **50** New Zealand babies die every year from SIDS as a result of exposure to second-hand smoke. In addition, every year in New Zealand second-hand smoke is thought to be responsible for:

- at least 500 hospital admissions for chest infections in under-two-year-olds
- 1,500 operations to treat glue ear
- around 15,000 episodes of childhood asthma
- more than 27,000 GP consultations for asthma and other childhood respiratory problems

More than one-third of New Zealand children live in households where people smoke. As New Zealanders become increasingly aware of the dangers of second-hand smoke we can hope to see fewer adults smoking around children. This would mean less second-hand smoke related deaths, hospitalisations and ill-health of New Zealand children.